



**UNIVERSITY OF SWAZILAND  
FINAL EXAMINATION PAPER**

**PROGRAMME: BSC ABE II**

**COURSE CODE: ABE 202**

**TITLE OF PAPER: ENGINEERING DRAWING**

**TIME ALLOWED: TWO (2) HOURS**

**SPECIAL MATERIAL REQUIRED: DRAWING EQUIPMENT**

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO  
OTHER QUESTIONS.**

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GRANTED BY THE CHIEF INVIGILATOR**

**QUESTION 1**

a) Figure 1 shows multi-view drawings of six objects A, B, C, D, E, F. The directions of viewing from the front, F, right side, R and plan, P are shown in drawing A. The different views are shown between 1 and 18 on the right. Select the matching view on the right to the corresponding box in the table. The front view for object A has been done for you.

[17 marks]

DRAWING	A	B	C	D	E	F
FRONT view in direction of F	10					
PLAN view in direction of P						
SIDE view in direction of R						

Figure 1 Isometric drawings of six objects and their orthographic views.

b) What are the advantages of using relative coordinate system to absolute coordinate system in drafting of engineering drawings.

[4 marks]

c) Figure 2 shows a drawing of a gasket with representation of a variety of lines used during dimensioning.

i. Name the lines labelled 1, 2, .....5. in the drawing.

[10 marks]

- ii. Under which situations are the following leader lines used?
- 1. Leader line with an arrowhead. [3 marks]
  - 2. Leader lines with a dot. [3 marks]
  - 3. Leader lines without a dot. [3 marks]

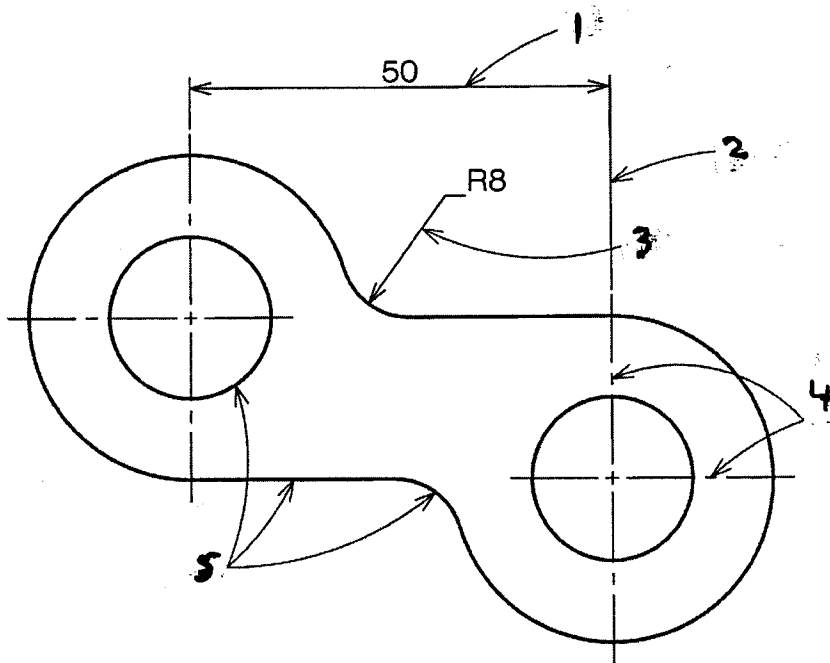


Figure 2 A gasket dimensioned using appropriate lines.

## SECTION II ANSWER ANY TWO QUESTIONS

## QUESTION 2

- a) CAD is an acronym that is commonly used to represent Computer Aided Design or Computer Aided Drafting.
- Distinguish between Design and Drafting [6 marks]
  - What are the advantages of using CAD in the production of engineering drawing? [10 marks]
- b) It is necessary to activate the 'HELP' system on the computer to guide you in the procedures of performing key functions in autoCAD. State three methods you can use to activate the 'HELP' system. [6 marks]
- c) Figure 3 represents the outer wall of a drawing of a house. Lines A, B, C and D are created by the line draw command. Without using the line draw command describe how you would create the inner lines E, F, G and H at a distance of 230 mm from the outer lines.

[8 marks]

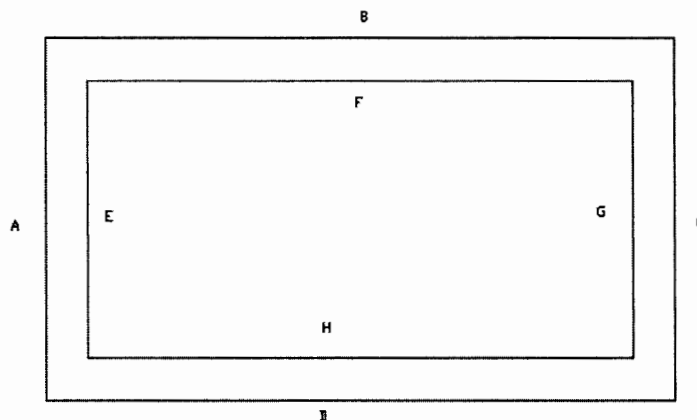


Figure 3 Outer wall of a house.



**QUESTION 4**

- a) What are working drawings? [2 marks]
- b) What set of drawings form working drawings? [6 marks]
- c) Name the three major categories of information included in a title block of a drawing. [9 marks]
- d) Name any six mistakes in the dimension drawing of Figure 5. [6 marks]
- e) Draw the correct dimensions in Figure 5a on page 8 for the step block. [6 marks]

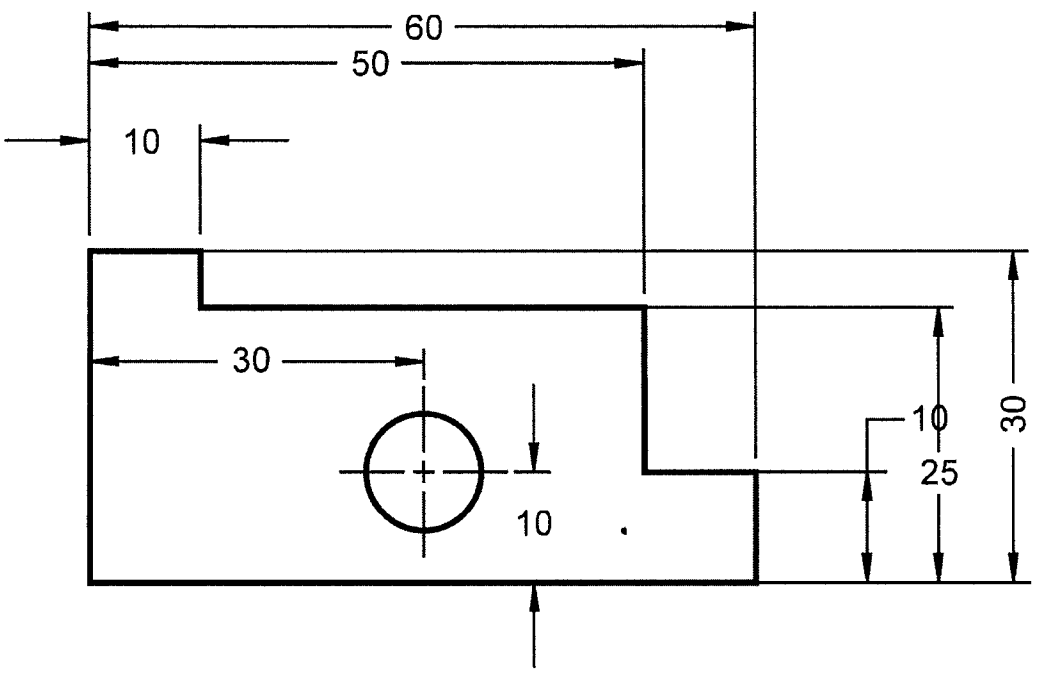


Figure 5 A block with dimensioning mistakes.

**QUESTION 3**

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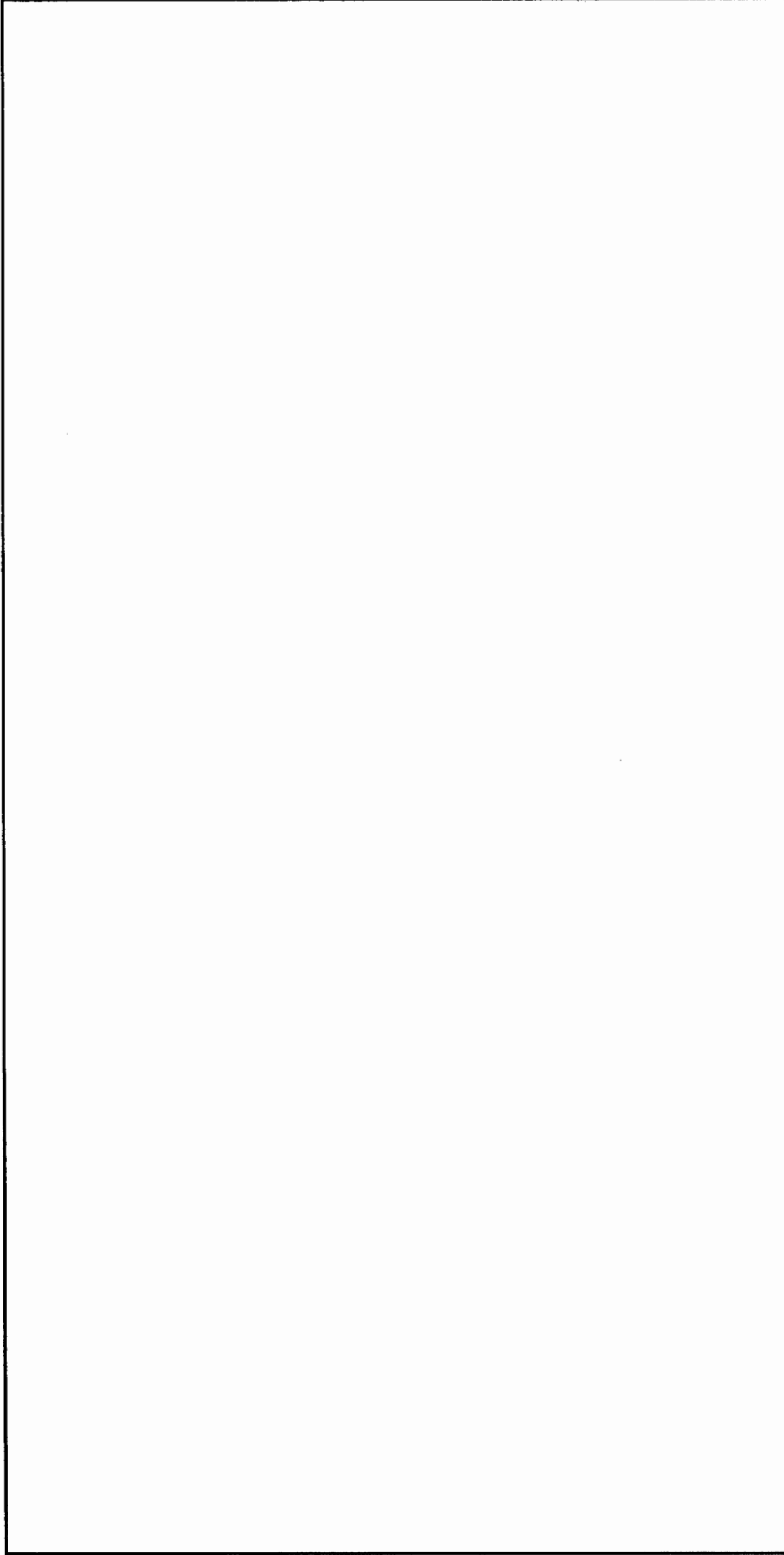


Figure 4a multiviews of a base-stand

QUESTION 4 d)

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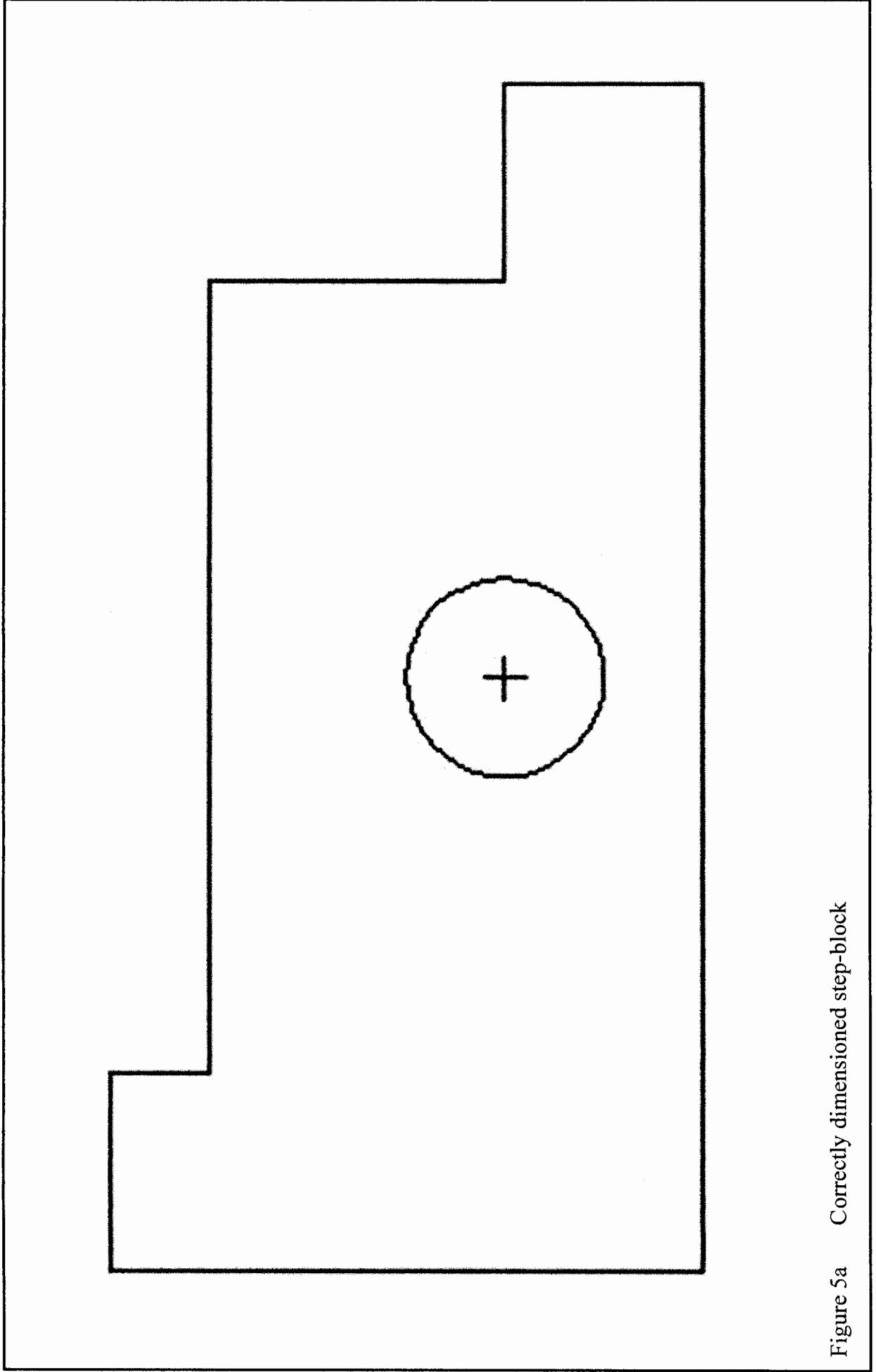


Figure 5a Correctly dimensioned step-block